CLAIMS

1. A system for signalling within optical or combined optical/electrical networks
c h a r a c t e r i z e d i n that one at a first transmission node executes polarization multiplexing of transmitted traffic, and that at one or more intermediate nodes is executing one or more of the following processing of the transmitted traffic:

demultiplexing of polarization of the received traffic and/or

multiplexing by polarization and/or time divisional multiplexing of the received traffic, and/or

SOP-alignment of the received traffic.

2. System according to claim 1,
c h a r a c t e r i z e d i n that at least two states of polarization are used for signalling.

3. A system according to claim 2,
c h a r a c t e r i z e d i n that said network is a package switched network and that states of polarization are changed at the beginning of every new package.

4. System according to one of the claims 2 and 3,
c h a r a c t e r i z e d i n that said states of polarization are changed between header and payload so as to separate said header from said payload within the respective package.

5. System according to claim 1 or 2,
c h a r a c t e r i z e d i n that the different states of polarization are used for separating of QoS classes.

6. System according to claim 5, characterized in that the QoS classes are given by the first transmission node controlling the state of polarization.

7. System according to claim 1 or 2, characterized in that the derivative of said state of polarization is used for separation of one or a number of QoS classes.

8. System according to the claims 1 - 4, characterized in that a polarization beam splitter is used where the effect at the outputs of the polarization beam splitter are monitored to detect the intermediate states by intermediate states which will produce output on both outputs of the polarization beam splitter, wherein the state of polarization is defined from distribution of effect between said outputs and the mechanism for monitoring combined with a switch to separate in a physical manner.

9. System according to one of the claims 1 - 4, characterized in that a polarization beam splitter is used to separate between said states of polarization.

10. System according to claim 1, characterized in that the first transmission node and/or the other intermediate nodes comprise a OPS module attached to a S-WRON node.

11. System according to claim 11, characterized in that said network further comprises switches where packages of a first quality class are forwarded optically, and packages of a second quality class are forwarded electronic.

12. System according to claim 11, characterized in that the first quality class is of the type GS, and the second quality class is of the type BE.

13. System according to claim 11, characterized in that the electronic switching matrix is of a type known from Prior Art, while the optical switching matrix is a wavelength router.

14. System according to claim 13, characterized in that a number of wavelengths is reserved to the electronic switch, and a number of wavelengths is reserved for the optical switch.

15. Method for handling of packages within optical package switching network, characterized in that one at a first transmission node executes polarization multiplexing of transmitted traffic, and that at one or more intermediate nodes is executing one or more of the following processing of the transmitted traffic:

demultiplexing of polarization of the received traffic and/or

multiplexing by polarization and/or time divisional multiplexing of the received traffic, and/or

SOP-alignment of the received traffic.

16. Method according to claim 15, characterized in that packages are separated in a first and a second class, wherein the packages in the first class are following e predefined route in a network, and that packages in the second class is switched by a package switch module.

17. Method according to claim 16, c h a r a c t e r i z e d i n that at a receiving node packages will be segregated into two classes, by way of setting switches based on header information from said packages.

18. Method according to claim 16, c h a r a c t e r i z e d i n that at a receiving node packages will be segregated into two classes, based on orthogonal states of polarization which represent the two said classes.

19. Method according to claim 15 or 16, c h a r a c t e r i z e d i n that when a first package with a guaranteed quality arrives at a switch a controlling device will register that the first package is present at the input before the first package is delayed in a FDL in a first pre-determined period of time, further an output is reserved where the first package is supposed to be transmitted.

20. Method according to claim 19, c h a r a c t e r i z e d i n that the first predetermined period of time has a period of time equal or longer that the period for a second package with a lower QoS level than the first package, and where the other package has a max. allowed size.

21. Method according to claim 15, c h a r a c t e r i z e d i n that statistically multiplexed BE-packages are interweaved with GS-packages where the GS-packages follow a predetermined wavelength path.

22. Method according to claim 15, c h a r a c t e r i z e d i n that said network comprises switches wherein packages of a first quality class are forwarded optically and packages of a second quality class are forwarded electronically.

23. Method according to claim 22, c h a r a c t e r i z e d i n that the electronic switching matrix is of well known type, while the optical switching matrix is a wavelength router, and on the input of said optical switch the input signals will split dependent of the polarization of the optical signal.